

# Insecutor Inscitiae Menstruus

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## NEW SIBERIAN CULICIDÆ

(*Diptera*)

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Among the specimens of mosquitoes sent by the Surgeons of the American Expeditionary Force in Siberia are some which, though closely allied to forms found in Alaska and the north-western United States, are apparently new, and are described below.

*Culiseta siberiensis*, new species.

Female: Head dark brown with large greyish white curved scales, a line of more slender ones around the eyes, brown forked scales on the occiput, and a few brown, and more white flat scales on the sides, brown bristles; antennæ dark brown, pubescence white, verticels dark brown, basal joint brown with a well formed crown of brown and dirty white rather slender flat scales, second and third joints with a few of the whitish scales; proboscis dark, covered with dark brown scales with a few whitish ones intermixed, especially on the more proximal portion, the apical third dark, labellæ dark; palpi dark covered with dark brown scales and some admixture of the whitish scales, especially at joints; clypeus dark brown, pruinose; eyes reddish brown.

Thorax: prothoracic lobes widely separated, dark, thickly covered with large greyish white curved scales and brown bristles; mesonotum very dark brown heavily covered with almost black and some yellowish and greyish white large curved scales, the latter tending to form a vague pattern, a

<sup>1</sup> Contribution from the Army Medical Museum, Washington, D. C.

group of the greyish white at the nape, on the shoulders, near the wing joints, and around the "bare space" almost forming a submedian line on either side, on some specimens a faint ill defined submedian light spot on either side, brown bristles mostly confined to the lateral margins. The yellowish scales are scattered through the brown ones on the middle portions of the mesonotum; scutellum dark, covered with the greyish white scales and heavy dark brown bristles grouped on the margins of each lobe; metanotum light brown, nude with a dark median line; pleura brown, heavily clothed with white long flat scales and long light hairs.

Abdomen dark, covered with very dark brown almost black scales, and narrow white bands which on the third and following segments broaden so as to form basal white lateral spots. A few white scales are scattered throughout the brown ones on some segments. The first segment has two submedian white spots and many light hairs, the second segment has a median narrow light line extending from the base to the distal margin, the following segments have narrow basal white bands not always complete, and widened to form the lateral spots, the eighth segment largely, in some specimens entirely, white scaled; venter light scaled, the membrane showing through somewhat darker in some specimens.

Legs: coxæ light brown, rather heavily clothed with white scales and fine long hairs; trochanters with some brown scales; femora covered with dark brown and white scales intermixed, the ventral aspect lighter almost to the apex, more marked on the hind legs, of which the ventral aspect is almost white, a tiny light knee spot; tibiæ also with dark and light scales intermingled, a ventral light line and very narrowly light at the apex; the first tarsal joint on the fore legs, darker, a minute basal light spot and a line of white scales that reaches nearly to the apex, which is dark, second and third tarsal joints have small basal light bands, reduced to a mere dot on the fourth, and the fifth is wholly dark. On the mid-legs the first tarsal joint shows a very narrow light line, not extending the whole length of the joint, the second, third, and fourth tarsals basally

light, fifth dark. The hind legs have the light line more markedly developed than on the other legs, the basal band on the second, third and fourth joints much more marked, and there are sometimes a few light scales at the base of the fifth. Ungues simple on all the legs.

Wings: clear, yellowish, slightly infuscated at the base of the second long vein, and at the cross veins. The scales are mostly brown, a slight admixture of white on the costa and first long vein where the scales are truncate, while on the remainder of the veins the scales are long lanceolate, rather narrow and a dark brown, the lateral scales being especially long and narrow. There are aggregations of scales forming five distinct spots, one at the base of the forks of second, fourth, and fifth long veins, one at the root of the second long vein, and one at the cross veins. The spot at the fork of the fifth vein is very distinct though small, on well scaled wings, but becomes more or less indefinite with the denuding of the wing. The first submarginal cell is longer and narrower than the second posterior, its petiole about half the length of the cell, and practically equal to that of the second posterior; cross veins nearly of one length, almost in a line, and heavily scaled on the distal side. The halteres have light stems and dark brown knobs. On the ventral side of the wing near the root of the first long vein is a heavy bunch of long hairs or slender bristles.

Length about 10.5 mm. (body 7 mm., proboscis 3.5 mm.), wing about 6 mm.

Taken, July 8-25, 1919, at Mostovoi, Selenga, and Verkhne Udinsk, Siberia.

Described from twenty-four females sent by the Surgeons at these posts. Apparently it lies nearest to *C. alaskaënsis* to which species I referred it originally, but additional specimens, and further study leads me to believe it to be distinct, the most marked difference being the fifth wing spot at the fork of the fifth long vein; otherwise the differences are small, but it was interesting to find so nearly related a species on the Asiatic side of the Pacific.

**Aedes grahami**, new species.

Female: Head brown covered with small curved, forked and flat scales; a median stripe of white curved scales, long slender scales at the vertex and white forked scales on the occiput broadening so as to form a triangular spot, base caudad; immediately laterad is a stripe of golden, or golden brown curved scales, forked scales of the same brilliant color at the occiput, flat brilliant brownish scales at the sides, brown forked scales extending well around to the sides; antennæ brown, the proximal joints lighter than the more distal, basal joint a chestnut brown with a thick crown of flat white scales, on the median and dorsal aspect the base of the second joint pruinose with a few dark flat scales, verticels short, rather scanty, dark, pubescence white; proboscis dark, covered with dark and white scales scattered throughout, the base and apical fourth darker, having very few white scales, labellæ dark; palpi dark, covered with dark and white scales intermixed, and a few brown bristles; clypeus dark brown, pruinose; eyes brown to reddish.

Thorax: prothoracic lobes well separated, covered with small slender golden, and broad white curved scales, and many dark bristles; mesonotum dark brown closely covered with golden and silver-grey small curved scales arranged in definite pattern. There are of the golden scales a broad median stripe beginning near the nape, gradually narrowing and extending to and on the "bare space," two short narrow stripes, beginning about one-third caudad of the nape, apparently branching from the broader stripe, but running parallel to it, and extending nearly to the "bare space," and laterad of these a broad somewhat clublike stripe on either side beginning about the middle of the mesonotum and extending to the scutellum. The shoulders and lateral margins are covered with brilliant brownish scales, and the rest of the mesonotum is covered with the small silvery grey curved scales, which grow larger near the scutellum, and a bunch of these larger grey scales occurs across the mesonotum at the nape. Here are two short denuded places suggesting the

dark line found in some other species and showing the dark brown (black) of the integument. A few brown submedian bristles near the caudad portion, and some white scales and a bunch of bristles, some white and a few brown, occur at the wing joint. The scutellum is brown, with a median bunch of the golden curved scales near the base of the midlobe, otherwise it is covered with the larger white curved scales; the marginal bristles are missing. The metanotum is a soft brown, pruinose; the pleura also a soft brown, irregular in color, rather completely covered with white flat longish scales and bunches of white bristles.

Abdomen dark; first segment covered with white scales and white bristles, the other segments have narrow basal and apical bands, a well developed white median stripe, and white lateral spots, developed into a lateral stripe, so that the dark scales appear as dark submedian spots, growing narrower on the more distal segments but still small distinct spots even on the ultimate segment. The venter is mostly white scaled, but some dark median scales, better developed as median spots, occur on the more terminal segments.

Legs: coxæ and trochanters testaceous, heavily covered with white scales and bristles, the latter appearing white or brown according to the direction of the light; femora all light, covered with black and white scales, rather evenly distributed on the forelegs, the white more predominant on the mid and hind legs, ventrally white, almost or quite to the apex, the fore leg with an unusually large number of bristles, especially near the apex, small white knee spot; tibiæ all speckled, perhaps a little lighter than the femora, a white line nearly the whole length of the joint, more marked on the hind legs, very narrow basal and apical white bands; first tarsal on the fore legs are dark dorsally, narrow basal and apical white bands, and ventrally light, mid legs have the first tarsal darker than the tibiæ, with a few light scales, and basal and apical light bands; on the hind legs the first tarsal is speckled, has a dark bend near the apex, and basal and apical light bands. The second tarsal joints on the fore and mid legs are dark with basal and

apical light band, on the hind legs they are dark, with a narrow light line, and basal and apical bands. The third tarsals on all the legs are dark, with basal white bands, but the apical bands on the fore legs are lacking or reduced to a few white scales, on the mid legs they are represented by a few white scales, and on the hind legs show only a narrow white apical band. The fourth and fifth on the fore legs are dark, on the mid legs are dark, with narrow basal white bands, and a few white scales at the apex, more marked on the ventral side, on the hind legs the fourth tarsal is dark with basal and very narrow apical white bands, the fifth joint is entirely white. All the unguis uniserrate.

Wings pale, largely white scaled; the costa almost entirely white scaled to near the junction of the subcosta, a few dark scales distad to this; the subcosta is also largely white scaled, but there are a few dark scales intermixed; the first long vein is light scaled near the root but otherwise rather evenly mixed throughout its length; second long vein practically white scaled to the forks, then the lateral scales are dark on both forks, and a dark spot at the tip of each; the third vein is entirely dark scaled, only the ventral scales being white; it is carried toward the root of the wing by a well marked incrassation. The stem of the fourth vein is entirely white scaled, with the exception of a few dark scales near the fork of the fifth, till the fork, both branches of which are dark scaled, except the ventral scales which are white; the fifth vein is dark scaled throughout, except the ventral scales, which are white; the sixth vein is white scaled, with an occasional dark scale. The wing fringe is largely white but the border scales are dark. The first submarginal is a little longer than the second posterior, its stem a little more than half the length of the cell, that of the second posterior a trifle shorter. The basal cross vein about double its length distant. The halteres are light, very fragile looking and covered with white scales.

Length: body about 9 mm., proboscis 4 mm., wing 5.5 mm.

Male: The general coloring is much as in the female. The head is mostly covered by white curved flat and forked scales,

a few yellow curved and forked scales, and some brown forked scales on the very edge of the occiput. The basal joint of the antennæ is brown, with white flat scales, the verticels very full, long and yellow, a dark band at the base of each whorl, the terminal joints dark with light yellow or white pubescence, and a few brown bristles; the proboscis is more definitely white scaled in the middle than in the female; palpi long, a broad black basal band, followed by a wide white band reaching nearly to the apex of the joint, a rather narrow black band involving both sides of the joint, followed by a broad white band extending about two-thirds the length of the penultimate, which here becomes thickened, and some black scales with blue iridescence, and a few yellow scales are found especially on the dorsal aspect, the very apex is dark, the penultimate joint is covered with dark, white and yellowish flat scales and a heavy plume of long yellow hairs and a few white bristles near the apex, the ultimate joint has black and light scales, the plume is not so heavy, and is mostly white. The thoracic marking is like that of the female. On the abdomen the submedian dark spots are well developed, but the terminal segments are mostly white, and the median dark line on the venter is much more pronounced. The ungues are large, on the fore leg the larger is biserrate, the smaller uniserrate; on the mid legs they are still unequal, and both are uniserrate; on the hind legs the ungues are equal and uniserrate. The wing is scantily scaled, but the general coloring of the female is suggested; the second posterior cell is much broader than the first submarginal, stem also a little shorter; cross vein distant a little more than its length. The *incrassata* of the third vein is more marked than in the female.

Length: body 8.5 mm., wing 5 mm.

Dr. Harrison G. Dyar, of the U. S. National Museum, has kindly examined and compared the male genitalia for me, and corroborates by the genitalic characteristics my conclusions from the somatic differences. His report follows:

"Side pieces about three times as long as wide, uniform, the tip rounded; clasp with long terminal spine; apical lobe low,

parallel to the side piece and similarly haired; basal lobe quadrately expanded, densely tubercular, with moderate setæ; a stout spine with hooked tip on the lower margin and a shorter straight one above the middle of the side margin. Harpago with short stout hirsute stem, a seta at base and two before apex; filament thickly fusiform, short, pigmented. Harpes normal; unci membranous. Basal appendages short with four or five terminal spines.

"As compared with *dorsalis* Meigen of western Europe, to which this species is allied, the two spines on the basal lobe of the side piece are much more remote. They are also more remote and differently placed from the corresponding spines in *currici* Coq., the North American representative. I consider the species distinct on genitalic characters."

Taken, the male at Mostovoi, July; the female at Vladivostok August 5, 1919.

Described from one female and one male in excellent condition sent in the collections made by the Surgeons of the American Expeditionary Force, Siberia. The male was taken at Mostovoi early in July by Major R. E. Graham, M. C., U. S. Army, the female was taken at the Emergency Hospital, Vladivostok, August 5. Although the collections from Siberia have been received in excellent condition, and contained many specimens, these are the only two of this species, none of those belonging to the more or less closely allied forms showing the brilliant thoracic markings.

#### *Aedes cyprius*, new species.

Female: Head brown, covered with yellowish white broad curved scales over the vertex and occiput, and extending well around to the sides, a few flat scales at the side, and a few slender forked scales at the nape; antennæ yellowish on the proximal joints, dark brown on the more distal, basal joint deep yellow and brown with white flat fragile looking scales, second joint yellow, apparently somewhat swollen, verticels dark, pubescence light, the distal joints dark; proboscis yellow, covered for the most part with thin yellowish or white scales and fine short brown hairs, a few dark brown scales near the



base and the distal part (about one-eighth the length of the proboscis) very dark; labellæ dark; palpi about one-fourth the length of the proboscis, yellow, loosely covered with dark brown and thin whitish scales, and brown hairs, the effect being a mottled yellow and brown, the last joint short and dark; clypeus brown, pruinose, a row of minute hairs on the frontal margin; eyes reddish brown.

Thorax: prothoracic lobes lateral, yellow, covered with light glistening curved scales and light bristles; mesonotum yellow, a dark rich reddish brown band across the cephalic margin and a median line extending almost to the "bare space," covered with light yellowish-white glistening curved scales, smaller on the cephalad portion, larger toward the scutellum, many light bristles on the disk, a lateral row and a heavy bunch of them at the wing joint; scutellum markedly trilobed, light, covered by long glistening yellowish-white curved scales, such as are found on the mesonotum, and with very heavy marginal bristles showing three or even four rows; metanotum pale, yellowish, pruinose; pleura yellow with white flat long scales and light bristles.

Abdomen fawn colored, showing some tendency to banding in the integument. The scaling seems to vary, so that any general statement about one specimen may not be accurate for another. The first segment shows some white scales as a basal bunch of long scales, in some specimens slightly curved, otherwise the abdomen is closely covered with rather long flat yellow (ochraceous) scales, a few dark scales irregularly placed, segmental and terminal bristles yellow; laterally the scales are lighter and sometimes appear as indefinite light spots. The venter is mostly white scaled with some dark scales rather irregularly placed, and light hairs. As on the dorsal segments these ventral ones show some tendency to banding in the integument, but this apparently varies in the individual. The terminal segment is entirely light; cerci dark.

Legs as a whole are yellow with brown bands; coxæ and trochanters yellow, mostly white, and a few brown scales, the distal margin of the trochanters fawn colored; femora yellow

with thin white or yellowish white and a few brown scales, and many brown bristles, the ventral aspect light; brown bristles at the apex give a slightly darker appearance. Tibiæ much the same, ventrally light, and the apex is somewhat darkened by the dark brown bristles. The first tarsals are light, with narrow apical dark bands; second tarsals on fore and mid legs have narrow dark apical bands, which are a little wider (one-third the length) on the hind legs; all the third tarsals dark with apical bands, about one-third the length of the joint; fourth tarsals are also apically dark, at least one-half the length of the joint; the fifth tarsals are dark in the fore and mid and with only a narrow light band on the hind legs.

Ungues are all uniserrate.

Wings: yellow, clear, veins yellow, clothed with long "Taeniorhynchus" like scales mostly thin yellowish white or white with rich dark reddish brown scales intermixed, in both median and lateral scales, and some even in the fringe, but not so as to form definite spots. The ventral scales are apparently all white. The first submarginal cell is a little longer and nearly one-half narrower than the second posterior, its stem nearly as long as the cell, but the length of the cells and stems, and the length and position of the cross veins vary, the latter always at right angles to the veins, but the distances varying from the full length of the cross vein to less than half its length. The halteres are entirely light.

Length: body 8.5-9 mm., wing about 7 mm., proboscis, 3.5 mm.

Taken, Selenga, July 10, 20, 21; Vladivostok, August 5, Verkhne Udinsk, August 12, 1919.

Described from twenty-two females sent by the Surgeons with the American Expeditionary Force, Siberia, at these stations: Major R. E. Graham, M. C., U. S. Army, at Verkhne Udinsk; Major J. P. Truax, M. C., U. S. Army, Emergency Hospital, Vladivostok; First Lieut. J. Kopecky, M. C., U. S. Army, Selenga.

The insect as a whole is brilliantly copper colored and stands out conspicuously in a collection of other mosquitoes.

Some points of interest should be noted. In *Culiseta siberiensis* the bunch of long hairs on the ventral side of the wing near the root of the first long vein seems to be unusual. At all events it is the first time it has been noticed by me.

The subject of the vestiture of the clypeus will probably need further study, because, not only does this fine fringe of short hairs show distinctly in *Aedes cyprinus*, but it also occurs, though less well marked, and not referred to in the description, in *Culiseta siberiensis*. This suggests that comparison with other forms in regard to this point is advisable so that some definition of length, position, etc., may be made to indicate its generic or specific value. There are, of course, forms where present knowledge leads us to expect this condition, but it was a great surprise to find it in those mentioned above.

## DESCRIPTIONS OF HITHERTO UNKNOWN LARVÆ OF CULEX

(*Diptera, Culicidæ*)

By HARRISON G. DYAR

Under the above title I described, in conjunction with Dr. Harvey P. Barret (*Ins. Ins. Menstr.*, vi, 119, 1918), the larva of *Culex peccator* D. & K. I am now able to add the description of another species, leaving only three larvæ unknown, namely, those of *anips* Dyar, *egberti* D. & K., and *pose* D. & K.

### **Culex (Choeroporpa) peribleptus** Dyar & Knab.

*Culex (Mochlostyrax) peribleptus* Dyar & Knab, *Ins. Ins. Menstr.*, v, 181, 1917.

*Culex (Mochlostyrax) peribleptus* Dyar, *Ins. Ins. Menstr.*, vi, 108, 1918.

Head broad, the antennæ thickened, with a notch at the outer third, from which arises a large tuft; terminal spines long; head hairs, the upper a small tuft in fives, the lower a single long hair. Body pilose throughout, including the anal segment. Lateral comb of the eighth segment a patch of about 20 scales two rows deep, becoming single below. Air